

Notice of Allowability

Application No.

10/777,955

Examiner

Chuc D. Tran

Applicant(s)

WOOD, GRADY M.

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to May 22, 2006.
2. ☒ The allowed claim(s) is/are 1,3-7,9-11,13-31 and 34-40.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some* c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
2. ☒ Certified copies of the priority documents have been received in Application No. 10/051,865.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____

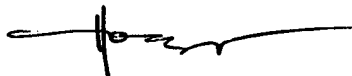
Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date 02/12/04
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☒ Interview Summary (PTO-413), Paper No./Mail Date 7/27/2006
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____



HOANG V. NGUYEN
PRIMARY EXAMINER

DETAILED ACTION

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Mr. Scott V. Lundberg, Tel: (612) 455-1690 on July 27, 2006.

The application has been amended as follows:

Claim 1, line 5, "supply during a discharging cycle." has been changed to - - supply during a discharging cycle; wherein pumping the energy stored on the first electrode of the load further comprises:

- cycling on and off a discharge current path that couples the first electrode to ground; when the discharge current path is cycled on, conducting current from the first electrode to the positive terminal of the power supply; and

- when the discharge current path is cycled off continuing to conduct current to the positive terminal of the power supply via a discharging inductor. - -;

Claim 6, line 10, "power supply with the use of the discharging inductor." has been changed to - - power supply with the use of the discharging inductor; wherein placing a select amount of positive charge on a second electrode of a load further comprises:

- cycling on and off a charging current path through the charging inductor that is coupled between the positive terminal of the power supply and a negative terminal of the power supply; and

- when the charging current path is off, coupling charge to the second electrode. - -;

Claim 11, line 9, "discharging the negative charge on the first electrode." has been changed to -

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- discharging the negative charge on the first electrode; wherein placing a select amount of positive charge on the first electrode further comprises:

- turning on a first current path between the positive terminal of the power supply and a first side of an inductor; and

- cycling on and off a second current path between a second side of the inductor and ground. - -;

Claim 18, line 4, "inductive pumping." has been changed to - - inductive pumping;

- cycling a first transistor in response to a first digital signal during the charging cycle;

- cycling a second transistor in response to a second digital signal during the discharging cycle;

- during an off period of the second digital signal, inductively conducting current from a negative terminal of the power supply to a positive terminal of the power supply. - -;

Claim 3, line 1, "claim 2" has been changed to - - claim 1 - -;

Claim 13, line 1, "claim 12" has been changed to - - claim 11 - -;

Claim 34, line 1, "claim 32" has been changed to - - claim 18 - -;

Claim 35, line 1, "claim 32" has been changed to - - claim 18 - -;

Claims 2, 8, 12, and 32-33 have been cancelled.

Allowable Subject Matter

2. Claims 1, 3-7, 9-11, 13-31 and 34-40 are allowed.

Reasons for Allowance

3. The following is an examiner's statement of reasons for allowance:

Regarding claim 1, Anderson fails to disclose or fairly suggest, in combination with the remaining claimed limitations, when the discharge current path is cycled off continuing to conduct current to the positive terminal of the power supply via a discharging inductor.

Claims 3-5 are allowed since they are dependent on claim 1.

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Regarding claim 6, Anderson fails to disclose or fairly suggest, in combination with the remaining claimed limitations, cycling on and off a charging current path through the charging inductor that is coupled between the positive terminal of the power supply and a negative terminal of the power supply; and when the charging current path is off, coupling charge to the second electrode.

Claim 7 and 9-10 are allowed since they are dependent on claim 6.

Regarding claim 11, Anderson fails to disclose or fairly suggest, in combination with the remaining claimed limitations, turning on a first current path between the positive terminal of the power supply and a first side of an inductor; and cycling on and off a second current path between a second side of the inductor and ground.

Claims 13-17 are allowed since they are dependent on claim 11.

Regarding claim 18, Anderson fails to disclose or fairly suggest, in combination with the remaining claimed limitations, during an off period of the second digital signal, inductively conducting current from a negative terminal of the power supply to a positive terminal of the power supply.

Claims 19-31 and 34-35 are allowed since they are dependent on claim 18.

Regarding claim 18, Anderson fails to disclose or fairly suggest, in combination with the remaining claimed limitations, cycling a second transistor in response to a second digital signal during the discharging cycle.

Claims 37-40 are allowed since they are dependent on claim 36.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

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Drawings

4. The drawings were received on February 12, 2004. These drawings are accepted.

Inquiry

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chuc D. Tran whose telephone number is (571) 272-1829. The examiner can normally be reached on M-F Flex hours.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy P. Callahan can be reached on (571) 272-1740. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

TC
August 2, 2006



HOANG V. NGUYEN
PRIMARY EXAMINER